This chapter describes the output provided by PROJECT and the procedures you can use to revise data inputs. The chapter is divided into two sections:

Section A describes the two levels of detail available for output. Output examples for both options are provided and explained.

Section B explains how to re-run the program by changing some or all of the variables. The different procedures for calculations using standard values and calculations using user-specified values are described. Also shown are error messages specific to changing standard and user-specified values.

A. OUTPUT OPTIONS

When PROJECT has finished its calculations, it asks you how you want your output presented. The first time through the program, PROJECT describes the three output choices in detail:

```
PROJECT is ready to provide output.  You have 3 choices:

1.  Display only the present value of the supplemental
    environmental project as of the penalty payment date.
     No intermediate calculations are displayed.  All of the
    inputs used in the calculations are shown.

2.  Display the present values of each cost component as of
    the project operation date and the penalty payment date.
    All of the inputs used in the calculations are shown.

3.  Do not display results.  Use this option if a data entry
    error is discovered.

CHOOSE OUTPUT OPTION 1, 2 OR 3.
```

All output options are designed to fit on standard letter-size paper, with top, bottom, and side margins on each page. For identification purposes, each page is marked with the date of the run (which you have entered) and the case name (input variable 1A). All values are rounded to the nearest dollar for printing in the output tables.

When one or more of the expenditure inputs exceeds $500,000, PROJECT converts all dollar amounts to thousands. When this conversion occurs, PROJECT provides a message alerting you that the results are in thousands of dollars. The message appears in parentheses under the present value calculation result in both output options.

In all of the output options, a listing of the variables used in the calculation follows the printout of the results, so that you may review your inputs along with your results.

Select one of the two output options by typing the number **1 or 2**; or skip over printing by choosing option **3**.

After you have finished all of your desired calculations, PROJECT will provide you the option to receive a printed copy of the output, as described in Chapter 2.

1. Output Option 1

Option 1 is the shorter form of output. Option 1 reports the after-tax net present value of all the supplemental environmental project costs. The present value is expressed as of the penalty payment date. The value as of the penalty payment date is the maximum amount by which you would mitigate the penalty. Exhibit 4-1 shows the output under Option 1.

2. Output Option 2

Option 2 prints the present value of each supplemental environmental project component first as of the project operation date and then as of the penalty payment date. As PROJECT reminds you in the output table, the maximum amount by which you would mitigate the penalty is the second figure (i.e., the present value as of the penalty payment date). The first set of figures is presented only to show you how the model is making the calculation, and should not be used in determining the penalty mitigation.

Option 2 provides more information, and can help users understand the effect of changes in the inputs on the present value. Exhibit 4-2 shows an example of output Option 2.

Exhibit 4-1

OUTPUT OPTION 1

```
PROJECT, VERSION 1.0
POLLUTANTS 'R US, INC.                                          JULY 1, 199 4

********** ************************************************************
MAXIMUM PENALTY MITIGATION:
THE AFTER-TAX NET PRESENT VALUE OF SUPPLEMENTAL ENVIRONMENTAL
PROJECT COSTS AS OF PENALTY PAYMENT DATE ( 1, 1994) =              $  7,524
(6 MONTHS BEFORE PROJECT OPERATION DATE)
********** ************************************************************
                                                  (DOLLARS IN THOUSANDS)

PLEASE PRESS THE ENTER KEY FOR MORE OUTPUT

->->->->->->    THE PROJECT CALCULATION ABOVE   <-<-<-<-<-<-
                USED THE FOLLOWING VARIABLES:


USER SPECIFIED VALUES
---------------------
1A.   CASE NAME                                  POLLUTANTS 'R US, INC.
1B.   PROFIT STATUS                        =                   FOR PROFIT
1C.   FILING STATUS                        =             C-CORPORATION
2A.   CAPITAL COSTS                        =      $  10244 1994 DOLLARS
2B.   USEFUL LIFE OF CAPITAL EQUIPMENT     =                   15 YEARS
3.    ONE-TIME NON-DEPRECIABLE COST        =      $   1000 1994 DOLLARS
      (TAX-DEDUCTIBLE COST)
4.    ANNUAL COST                          =      $     25 1994 DOLLARS
      NUMBER OF CREDITED YEARS             =                          5
5.    PENALTY PAYMENT DATE                 =                    1, 1994
6.    PROJECT OPERATION DATE               =                    7, 1994
7.    MARGINAL TAX RATE                    =                     39.4 %
8.    ANNUAL INFLATION RATE                =                      1.3 %
9.    DISCOUNT RATE                        =                     10.9 %
                                                  (DOLLARS IN THOUSANDS)

DO YOU WANT TO INCLUDE THESE RESULTS IN AN OUTPUT FILE FOR PRINTING?
(Y=YES, N=NO)
```

Exhibit 4-2

OUTPUT OPTION 2

```
PROJECT, VERSION 1.0
POLLUTANTS 'R US, INC.                                          JULY 1, 1994

THE AFTER-TAX NET PRESENT VALUE OF SUPPLEMENTAL ENVIRONMENTAL
PROJECT COSTS AS OF PROJECT OPERATION DATE:

CAPITAL COSTS                                    $  7,257
ONE-TIME NON-DEPRECIABLE COST                    $    606
ANNUAL COST FOR 5 YEARS                          $     61
                                                 ========
TOTAL AS OF   7, 1994                    $  7,924

THE AFTER-TAX NET PRESENT VALUE OF SUPPLEMENTAL ENVIRONMENTAL
PROJECT COSTS AS OF PENALTY PAYMENT DATE ( 1, 1994),
6 MONTHS BEFORE PROJECT OPERATION DATE:

CAPITAL COSTS                                    $  6,891
ONE-TIME NON-DEPRECIABLE COST                    $    575
ANNUAL COST FOR 5 YEARS                          $     58
**************************                       ========
MAXIMUM PENALTY MITIGATION =                     $  7,524
**************************                                (DOLLARS IN THOUSANDS)

PLEASE PRESS THE ENTER KEY FOR MORE OUTPUT

->->->->->->  THE PROJECT CALCULATION ABOVE  <-<-<-<-<-<-
              USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES
---------------------
1A.   CASE NAME                                          POLLUTANTS 'R US, INC.
1B.   PROFIT STATUS                              =                    FOR PROFIT
1C.   FILING STATUS                              =               C-CORPORATION
2A.   CAPITAL COSTS                              =        $  10244 1994 DOLLARS
2B.   USEFUL LIFE OF CAPITAL EQUIPMENT    =                          15 YEARS
3.    ONE-TIME NON-DEPRECIABLE COST              =        $   1000 1994 DOLLARS
      (TAX-DEDUCTIBLE COST)
4.    ANNUAL COST                                =        $     25 1994 DOLLARS
      NUMBER OF CREDITED YEARS                   =                             5
5.    PENALTY PAYMENT DATE                       =                      1, 1994
6.    PROJECT OPERATION DATE                     =                      7, 1994
7.    MARGINAL TAX RATE                          =                       39.4 %
8.    ANNUAL INFLATION RATE              =                              1.3 %
9.    DISCOUNT RATE                              =                      10.9 %
                                                                (DOLLARS IN THOUSANDS)

DO YOU WANT TO INCLUDE THESE RESULTS IN AN OUTPUT FILE FOR PRINTING?
(Y=YES, N=NO)
```

As illustrated in Exhibit 4-2, the top half of output Option 2 presents intermediate steps of the PROJECT calculation, in addition to the total present value of the supplemental environmental project. The first set of figures shows the present value of the supplemental environmental project costs as of the project operation date. This figure is expressed in project operation date dollars. The second set of results shows the present value of the supplemental environmental project costs displayed in the first set of results, discounted to the date of the penalty payment. This figure is expressed in penalty payment date dollars.

3. Output Option 3

Option 3 allows you to skip printing the output. You should use this option if you have discovered an error in your entry values. PROJECT will then ask if you wish to make any further changes so that you can correct the error. Type **0** (zero) after you have made all necessary changes. PROJECT then asks if you would like to see a listing of the current variable values to review your changes. If you answer **N**, for no, PROJECT again lists the output options for your choice.

B. CHANGING INPUT VALUES

Once PROJECT has completed a calculation and printed the output, you can end the session or conduct a second calculation. This section outlines the procedure for changing variable values after you complete your initial run. This feature allows you to recalculate the present value without having to re-enter all values. You might also wish to test the sensitivity of the present value calculation to changes in individual variables. (See Chapter 2, Section D above for an explanation of the procedure for ending all calculations.)

```
DO YOU WISH TO DO ANOTHER PROJECT CALCULATION?
(0=NO; 1=YES, USING STANDARD VALUES; 2=YES; USING OWN INPUTS)
```

If you want to do another calculation, you must choose between a calculation using the standard values for variables 7 through 9, or a calculation in which you specify all inputs. Typing **1** indicates that you wish to use the standard values; typing **2** indicates that all values will be user-specified. Whenever you choose to use standard values, PROJECT will prompt you for any changes to variables 1 through 6. The remaining variables will have the standard values. If you decide to use user-specified values, PROJECT will prompt you for any changes to variables 1 through 9. PROJECT then list the previous input values and prompts you for the variable(s) you wish to change.

PROJECT allows you to change only certain variables when you re-run the program, depending on whether you used standard values in the previous calculation, and whether you plan to use standard values in the new calculation. Note that whenever you are planning a PROJECT session involving multiple runs, it is helpful to fill out the Data Entry Form before you start (see Exhibit 3-2).

The next two sections outline the procedures for changing variable values. The first section describes changing values in the standard value mode. The second subsection describes changing values in the user-specified mode.

1. Changing Values in the Standard Value Mode

```
DO YOU WISH TO DO ANOTHER PROJECT CALCULATION?
(0=NO; 1=YES, USING STANDARD VALUES; 2=YES, USING OWN INPUTS)
1
```

This section outlines the procedures for changing variable values when PROJECT assigns standard values to variables 7 through 9. Type **1** to indicate that you wish to use standard values.

PROJECT will allow you to change only variables 1 through 6, since standard values will be used for the remaining variables. You can, however, change any or all of variables 1 through 6 one or more times during the change procedure. In the following example, the user wants to change variable 4.

```
TYPE THE NUMBER OF VARIABLE TO BE CHANGED, OR TYPE 0 FOR NO CHANGE.
4
```

PROJECT responds with a prompt for the new variable value:

```
4.  ANNUAL COST =
    (FOLLOW WITH DOLLAR-YEAR SEPARATED BY A BLANK; e.g., 10000 1993)
    (ENTER 0 IF THIS COST CATEGORY IS NOT APPLICABLE)
    (YOU CAN ENTER A NEGATIVE NUMBER IF THE PROJECT RESULTS IN COST
    SAVINGS, E.G., A MORE EFFICIENT PRODUCTION PROCESS.  SEE USER'S MANUAL
    FOR A MORE DETAILED EXPLANATION.)
25000 1994

    HOW MANY YEARS OF ANNUAL COSTS SHOULD BE CREDITED?
    (ENTER THE NUMBER OF YEARS)
    (THE NUMBER OF YEARS OF ANNUAL EXPENSE MUST CORRESPOND TO THE NUMBER OF
    YEARS THAT THE DEFENDANT IS LEGALLY REQUIRED TO OPERATE THE PROJECT.)
10
```

Simply enter the new value according to the required format and press the **enter** key. PROJECT will then list the current user-specified values, including any new values or changes. If you decide not to change the former value, simply press the **enter** key and PROJECT will keep the former value in its memory. In the case of a cost and year entry, PROJECT uses both former values. If you want to change a variable, and the prompt requires the dollar-year in addition to the cost entry, enter both values. If you omit the dollar-year entry and enter only the cost, PROJECT will use the former value for the dollar-year, which is displayed with the former cost value.

If you attempt to change variables 7, 8, or 9, PROJECT will print the following message:

```
>>> ERROR:  INVALID SELECTION.  PLEASE REENTER. <<<
```

You get this error message because you selected standard values.

When you have made all of your changes, type **0** (zero). PROJECT will then bring you to the output option menu. PROJECT prompts you to select the output format from the following choices:

```
PROJECT is ready to provide output.  You have 3 choices:

1.  Display only the present value of the supplemental
    environmental project as of the penalty payment date.  No
    intermedia te calculations are displayed.  All of the inputs
    used in the calculations are shown.

2.  Display the present values of each cost component as of
    the project operation date and the penalty payment date.
    All of the inputs used in the calculations are shown.

3.  Do not display results.  Use this option if a data entry
    error is discovered.

CHOOSE OUTPUT OPTION 1, 2 OR 3.
```

Options 1 and 2 will display PROJECT's results in different levels of detail. Option 3 skips over the printing. PROJECT then offers you the opportunity to do another present value calculation.

2. Changing Values in the User-Specified Mode

```
    DO YOU WISH TO DO ANOTHER PROJECT CALCULATION?
    (0=NO; 1=YES, USING STANDARD VALUES; 2=YES, USING OWN INPUTS)
2
```

This section outlines the procedures for changing variable values when variables 7 through 9 are user-specified. Type **2** to indicate that you wish to use variables other than the standard values. PROJECT will then list all current user-specified values.

You can change any of the 9 variables and make as many changes as desired. If the previous value printed in the user-specified value is the desired value, press only the **enter** key and PROJECT will keep this value in memory. Note that in most cases where the previous run used standard values, the old values shown in the user-specified values are the standard values.

```
USER SPECIFIED VALUES
---------------------
1A.   CASE NAME                              POLLUTANTS 'R US, INC.
1B.   PROFIT STATUS                        =            FOR PROFIT
1C.   FILING STATUS                        =         C-CORPORATION
2A.   CAPITAL COSTS                        = $  10244 1994 DOLLARS
2B.   USEFUL LIFE OF CAPITAL EQUIPMENT     =              15 YEARS
3.    ONE-TIME NON-DEPRECIABLE COST        = $   1000 1994 DOLLARS
      (TAX-DEDUCTIBLE COST)
4.    ANNUAL COST                          = $     25 1994 DOLLARS
      NUMBER OF CREDITED YEARS             =                    5
5.    PENALTY PAYMENT DATE                 =               1, 1994
6.    PROJECT OPERATION DATE               =               7, 1994
7.    MARGINAL TAX RATE                    =                39.4 %
8.    ANNUAL INFLATION RATE                =                 1.3 %
9.    DISCOUNT RATE                        =                10.9 %
                                           (DOLLARS IN THOUSANDS)
```

Be sure to maintain the required relationships among variables. For example, the inflation rate cannot exceed the discount rate. PROJECT checks for these types of errors after all changes have been made. See Chapter 2 for examples of the error messages that PROJECT provides.

After you have entered all the information and PROJECT has checked for errors, PROJECT asks whether you desire a listing of the variables and their current values.

After all changes have been made (by either entering new values or by pressing the **enter** key to use the former values), enter **0** (zero) to end the change session. PROJECT will then bring you to the output option menu. After providing output, PROJECT again offers you the opportunity to perform another present value calculation.